MAMMILLARIA LUETHYI (CACTACEAE), A NEW SPECIES FROM COAHUILA, MEXICO

George S. Hinton

Apartado Postal 603, Saltillo, Coahuila, MEXICO 25000

ABSTRACT

A new species of *Mammillaria*, *M. luethyi* G.S. Hinton is described from northern Coahuila, México, where it occurs in shallow soil deposits on horizontal limestone slabs. It is outstanding for its unique spine characters.

KEY WORDS: Cactaceae, Mammillaria, México, Coahuila, systematics

With the following description we put an end to a 44 year old mystery. Originally the plant herein described was found in 1952 by Boke as a cultivated specimen of unknown origin. Photographs made by Cutak were published by Backeberg (1961) who wrongly identified it as an undescribed species of *Neogomesia*. Glass & Foster (1978) showed the same plant, identifying it correctly as a species of *Mannillaria*. Bravo & Sanchez-Mejorada (1991, figure 242) published the same photo as *Normanbokea valdeziana*.

MAMMILLARIA LUETHYI G.S. Hinton, spec. nov. TYPE: MEXICO. Northern Coahuila: On limestone slabs in Chihuahuan Desert vegetation, May 19 1996, Hinton et al. 25771 (HOLOTYPE: HERBARIUM OF G.B. HINTON; Isotypes: to be distributed).

Plantulae perpusillae, spinis albis dense vestitis, vix e terra emergentes, simplices vel modice prolificantes, apice 1.5 cm diametro, radicibus succulentis e base caulis, tuberculis peranguste cylindricis, erectis, ca. 5.5 mm longis, 1.3 mm diametro, areolis 80 spinis albis, dense insertis, 0.4-0.6 mm longis, extremo solo pubescentibus papillis radiantibus quasi stellula, apicem tuberculi tegentibus. Flos 2 cm longus et diametro, submagenteus. Fructus globosus, ca. 4.5 mm diametro, vix carnosus, immersus in caule, luteolus ad modice rubescens. Semen niger, globosus, 1 mm diametro, hilo basali, testa foveolata.



Figure 1. Photograph of habit and habitat of Mammillaria luethyi.

Stems single to branching with up to 7 heads, apex rounded to flattened, ca. 1.5 cm in diameter, emerging only slightly above the substrate. Subterranean part of the stem naked, carrot-like, conical with several strongly succulent, tapering roots, ca. 6 mm in diameter at base. Tubercles ascending, densely set, very slender, cylindrical, up to 5.5 mm long and 1.3 mm in diameter, dark green with a reddish or whitish base, becoming dry and deciduous in the subterranean part of the stem. Areoles containing some hyaline hairs and up to 80 white spines, densely set in various series, porrect to radiating, forming a dense flattened cluster 1.3-1.8 mm in diameter, slightly rhomboidal in outline, completely covering the apex of the tubercle. Spines 0.4-0.6 mm long, the uppermost in the areoles slightly longer, whitish-translucent with hyaline hairs in the uppermost part, hairs radiating and forming a little umbrella at the spine apex. Flowers up to 2 cm long and wide, light magenta. Fruit nearly completely sunken in the stem, globular, 4.5 mm in diameter, vellowish green to reddish green with up to 15 seeds, drying and leaving a cavity filled with seeds in the stem base. Seeds black, globular, ca. 1 mm long and wide, with a basal hilum, slightly separated by a faint neck, irregularly oval, 0.8 mm long and 0.4 mm wide. Testa finely pitted.

The plants grow on horizontal limestone slabs, deeply sunken in a very shallow substrate (Figure 1), only 1.5-2.0 cm deep, of sandy clay and fine gravel, growing with Selaginella wrightii, Neolloydia conoidea, Bouteloua gracilis, and lichen. The microhabitats are surrounded by typical Chihuahuan Desert vegetation, dominated by Agave lechuguilla, Dasylirion sp., Yucca elata, Yucca sp., Fouquieria splendens, Escobaria tuberculosa, and Glandulicactus uncinatus.

Mammillaria luethyi is known only from the type locality, which has been purposefully withheld to protect the habitat from collecting. The exact locality data are deposited with the holotype.

Mammillaria luethyi belongs to the series Herrerae, together with M. humboltii, M. herrerae, M. albiflora, and M. sanchez-mejoradae, this last being its closest neighbor, growing to the southeast in Nuevo León. The species of series Herrerae share several characters, e.g., fruits sunken in the stem, a high number of white radial spines, lack of central spines and the distribution as narrow endemics on limestone rock in eastern México from Querétaro to Coahuila (Luthy 1995). Mannullaria luethvi differs from M. sanchez-mejoradae in the arrangement and vestiture of the spines (vs. pectinate, plumose) and the color of the flower (vs. white). Superficially it resembles M. saboae, of series Longiflorae, from which it differs in the habitat (vs. volcanic rock), spine insertion, count, length, and vestiture (vs. a single series, 17-25, ca. 2 mm long, glabrous) and flower size (vs. 4 cm long and wide).

This remarkable *Mammillaria* is named for Jonas M. Lüthy, one of its codiscoverers, a Swiss botanist and student of the genus Manmillaria, who after a flash of intuition pointed to its exact location on his map and spoke, "This is where the plant grows." And there we found it.

ACKNOWLEDGMENTS

I wish to thank my wife Alejandra for her support on all my collecting trips.

I am grateful to B.L. Turner and Gayle Turner for reviewing the manuscript. Also Alejandra Hinton for the use of her vehicle.

LITERATURE CITED

- Backeberg, C. 1961. Die Cactaceae. Vol. 5: 2687.
- Bravo, Hollis H. & Sanchez Mejorada H. 1991. *Las Cactáceas de México*. Vol. 3. Universidad Nacional Autónoma de México: Fig. 242.
- Glass, C. & R. Foster. 1978. What is New. Cact. Succ. J. (U.S.A.):60.
- Lüthy, J. 1995. Taxonomische Untersuchung der Gattung Mannillaria Haw. (Cactaceae). Verlag Arbeitskreis für Mammillanenfreunde AfM) e.V. & Jonas M. Lüthy.